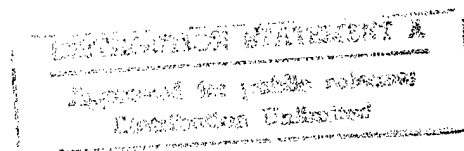


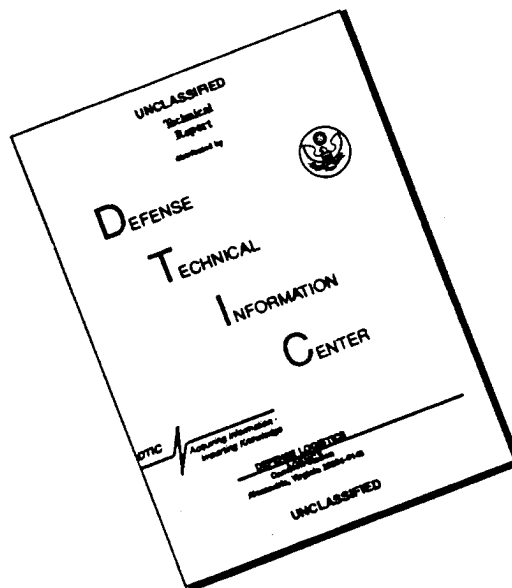
"A Phase I Archaeological Survey of Portions
of Godman Airfield on the Fort Knox Military
Reservation, Hardin and Meade Counties,
Kentucky" by Pamela A. Schenian and Stephen
T. Mocas, Fort Knox. August 1996.



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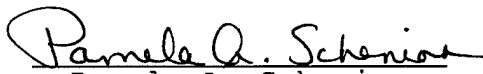
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A Phase I Archaeological Survey
of Portions of Godman Airfield
on the Fort Knox Military Reservation,
Hardin and Meade Counties, Kentucky

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August 1996


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ABSTRACT

In April 1996, the Fort Knox contract archaeology staff conducted a Phase I archaeological survey of portions of Godman Airfield, Fort Knox, Hardin and Meade Counties, Kentucky. This survey was not performed in association with a specific undertaking, but to take advantage of improved field conditions. The area surveyed encompasses approximately 32.6 ha (80.4 acres). The survey resulted in the recording of two archaeological sites, 15Hd521 and 15Hd522, both lithic scatters of indeterminate prehistoric cultural-temporal affiliation with minor amounts of late nineteenth century to early twentieth century historic materials.

Site 15Hd522 is not eligible for the National Register due to previous disturbance and a small assemblage. No further archaeological investigation is recommended for 15Hd522. Site 15Hd521 is potentially eligible for the National Register because conditions were not conducive to proper assessment. Additional testing should be conducted at 15Hd521 prior to any future undertakings which might affect the site.

It is recommended that all sections of the airfield bounded on all sides by runways may be assumed to be too disturbed to warrant survey for archaeological sites. It is also recommended that the unsurveyed portions of the airfield which cannot be assumed to be previously disturbed should be surveyed for cultural resources prior to future earthmoving activities.

MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations, a Phase I archaeological study was conducted of portions of Godman Airfield on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky. Two archaeological sites with both prehistoric and historic materials were recorded. Site 15Hd521 is potentially eligible for the National Register because conditions were not conducive to proper assessment. It is recommended that this area be more fully studied if it is to be subjected to construction. Site 15Hd522 is not eligible for the National Register, and it is recommended that no additional archaeological investigation is required at these sites. It is further recommended that the remainder of the areas of the airfield that cannot be determined to be previously disturbed on the basis of archival research be surveyed for cultural resources as areas are burned and bush-hogged or in advance of construction.

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INTRODUCTION

In April 1996, the Fort Knox contract archaeology staff performed a Phase I archaeological survey of portions of Godman Airfield on the Fort Knox military reservation, Hardin and Meade Counties, Kentucky (Figure 1). This survey concentrated on the northwest quarter of the airfield, much of which had been recently burned and bushhogged.

In 1993, the Fort Knox Contract Staff Archaeologist obtained all the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps), and these documents are updated regularly. The documents are on file at the Cultural Resource Management Office, Environmental Management Division (EMD), Directorate of Public Works (DPW), Fort Knox. No file check, therefore, was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.

A literature search revealed that none of the project area had been previously surveyed. During the present project all areas with generally good visibility were inspected by walkover, supplemented by shovel probing. The project area is in the Plain section of the Pennyryle cultural landscape, in the undulating karst plain. Elevations in the project area range from 720 to 780 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Drainage in the project area is into the headwaters of the North Fork of the Dry Branch of Otter Creek.

The archaeological survey and literature review were required to comply with the National Environmental Policy Act, or NEPA, (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

The project area was surveyed on April 10, 1996, by Schenian and Mocas. A total of six person hours were spent in the survey. Two archaeological sites, both with prehistoric and historic materials, were recorded. The artifacts collected and the related project documentation will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-95-C-0102, for curatorial and technical support (copy of contract on file at DPW). Duplicate copies of the documentation will be stored at DPW.

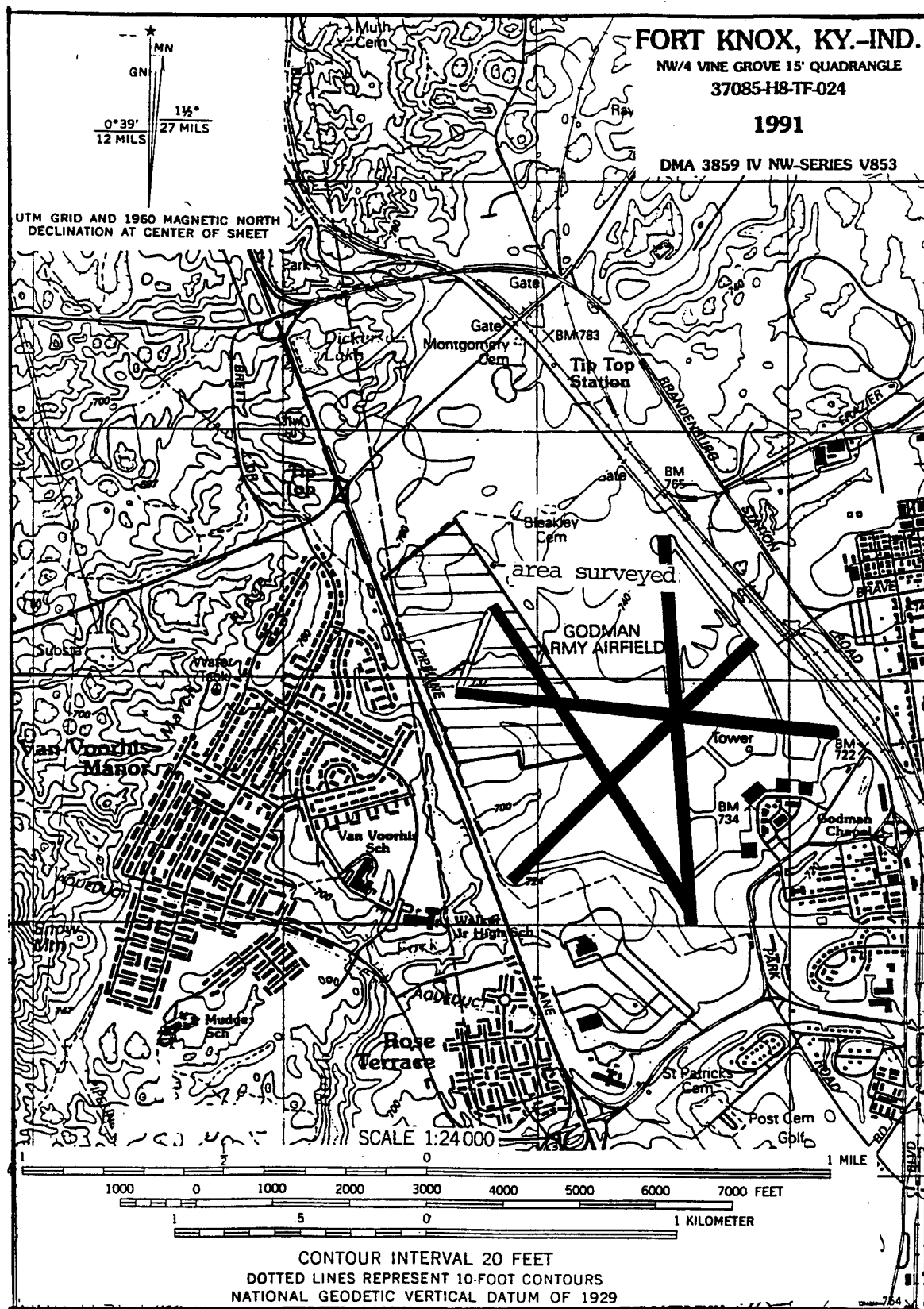


FIGURE 1. Location of Project Area.

SETTING AND ENVIRONMENTAL BACKGROUND

O'Malley et al. (1980) prepared a detailed description of the setting and environmental background of the Fort Knox base as a whole. This section will focus on the environmental characteristics of the current survey area.

The project area is located in the Plain section of the Pennyryle cultural landscape (KYSHPO 1991). The project area is in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35) on a relatively level area at the edge of the undulating karstic plain. Elevations in the project area range from 720 to 780 feet. Drainage is into the headwaters of the North Fork of the Dry Branch of Otter Creek.

Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map), and consist of Nicholson silt loam in all areas except in the immediate vicinity of the drainage at the south end of the area surveyed, which had Crider silt loam (Arms et al. 1979: Maps 2 and 4).

PREVIOUS RESEARCH

Approximately 26,534 acres of the Fort Knox installation have been surveyed for archaeological sites at some level, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994) summarize the archaeological studies conducted on or near the installation through August 1994. This section will focus on the previous research conducted within a 2 km radius of the current project area.

O'Malley et al. (1980) surveyed approximately one-quarter each of Hunting Areas (HA) 7, 8, 19, and 20 near the current project area. Three prehistoric sites (15Md166 through 15Md168), a prehistoric isolated find (15Md169), a historic house (15Md170), and a cistern (12Md234) were reported in HA 7 within 2 km of the project area. No sites were found in HAs 8, 19, and 20. Ruple (1993) surveyed the area around Dickerson Lake and Schenian and Mocas (1993) surveyed an adjoining area to the south for land rehabilitation projects, but found no sites. Mocas (1994b) encountered no sites in the survey for a pipeline and water tower on Frazier Road. The survey of proposed topsoil borrow areas on Tow Dragon range, to the east of the project area, yielded two prehistoric isolated finds (Mocas 1994a). Schenian (1995) surveyed a timber harvest area near Van Voorhis Manor, recording no sites, and Schenian and Mocas (1994) surveyed a proposed school gym location at Mudge School, recording 15Md377. Sorenson and Ison (1979) surveyed the

South Central Bell building site and access road, encountering no archaeological sites.

Schenian and Mocas (1995) surveyed most of the area north of the airfield and south of Baker Road, recording three historic sites (15Hd502-15Hd504). All three sites are considered to be potentially eligible for the National Register. A projectile point also was found in the same location as one of the isolated finds in the Mocas (1994a) survey of Tow Dragon range in the Schenian and Mocas (1995) survey.

No archaeological sites near the project area are listed on the National Register or have been formally determined to be eligible for the National Register, however, few have been adequately investigated to determine that they are not eligible. Most of the buildings within the viewshed of Godman Airfield are less than 50 years old or are more than 50 years old but have been formally determined to be not eligible for the National Register. Building 5220, or Hanger 1, however, has been determined to be eligible for the National Register, and the nomination form was signed by the State Historic Preservation Officer on July 14, 1995. Since there are no immediate or long-term plans to convert Godman Airfield to a use other than as an airfield, maintenance or expansion of Godman Airfield is not expected to have any impact on Building 5220.

SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) The airfield was created in the early 1940s. Some disturbance due to its construction and maintenance is expected. 2) The project area consists of low rises in a relatively level area with small drainages. This environment may have been suitable for specialized prehistoric activities but not habitation due to the lack of a reliable water source. Previous surveys of upland karst plain areas of Fort Knox have resulted in a very low site density, especially for prehistoric sites.
- 3) According to the Army land acquisition maps, Godman Airfield was constructed on nine tracts of land (three owned by one individual). Four of these had structures on or near the airfield, but all of the structure locations appear to coincide with areas disturbed with the construction of the airfield or Dixie Highway. There is, therefore, a

low potential for historic archaeological sites, especially ones still occupied at the time of acquisition (1918-1919).

FIELD METHODS

The areas inspected in this project recently had been burned (in a controlled burn) and then bushhogged. This had been done as a means of controlling the growth of saplings (which are an airfield safety hazard) and of enriching the habitat of the Henslow sparrow (a threatened bird species that lives on the airfield and needs a meadow habitat). The areas surveyed were walked in transects spaced approximately 10 m apart. Ground surface visibility was variable, but usually was 50 to 100 percent. The exception to this was at the northwest corner of the airfield, on a hill top, where visibility was approximately zero to 10 percent.

If archaeological materials were encountered, then the find vicinity was inspected at intervals of no more than 5 m. This close interval was continued until no additional artifacts had been found for a distance of at least 20 m from the last previous artifact discovery.

If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel probe was excavated. Each shovel probe was approximately 30 cm square at ground surface and excavated to a depth of at least 30 cm or until subsoil was encountered. The fill was trowel sorted for cultural materials outside of known site areas, and the probe wall profiles were inspected prior to backfilling of the tests. On archaeological sites, the fill was screened through one-quarter inch hardware cloth to maximize recovery of materials.

In summary, the survey resulted in the recording of two archaeological sites, 15Hd521 and 15Hd522. The following sections describe the artifacts and the cultural resources.

ARTIFACT TYPOLOGY AND MATERIALS RECOVERED

The following paragraphs summarize the artifact typologies used in the sorting and analysis of the artifacts recovered in this project, and describe specific artifacts recovered in greater detail. The distribution of artifacts by site is summarized in Table 1.

TABLE 1. Artifacts by Site.

	15Hd521	15Hd522	Total
KITCHEN GROUP			
Ceramics			
stoneware			
gray	1	0	1
brown	1	0	1
refined earthenware			
whiteware	1	0	1
semi-porcelain	1	1	2
Bottle glass			
amethyst, solarized	1	0	1
aqua	1	0	1
Kitchen Group Total	6	1	7
ARCHITECTURAL GROUP			
Nail			
square nails	0	1	1
Architectural Group Total	0	1	1
<u>HISTORIC TOTAL</u>	<u>6</u>	<u>2</u>	<u>8</u>
PREHISTORIC			
Unutilized debitage			
secondary flakes	2	0	2
tertiary flakes	1	4	5
shatter	5	3	8
PREHISTORIC TOTAL	8	7	15
TOTAL	14	9	23

Prehistoric Artifact Typology

Chert Debitage

Chert debitage is a category used to describe the lithic debris created as a by-product of the manufacture of more formally defined chipped stone tools. Debitage is divided into utilized and retouched flakes, non-utilized flakes, microflakes, blocky chert pieces, and shatter. Non-utilized flakes are classified by stage of manufacture, and utilized and retouched flakes by evidence for use as informal, or expedient, tools. The following criteria were used to sort the chert debitage in this study:

- 1) Flakes have a striking platform and a bulb of percussion. Concentric rings or ripple marks on the ventral surface and feather terminations also may be present. Primary flakes have 90 percent or more of the dorsal surface (the side opposite the bulb of percussion) covered by cortex or rind; secondary flakes have one to 90 percent of the dorsal surface covered by cortex; and tertiary flakes have no cortex present on the dorsal surface.
- 2) Shatter is a flat, generally small, chert piece exhibiting some flake-like characteristics, which is insufficiently complete to classify it as a primary, secondary or tertiary flake.
- 3) A blocky chert piece is an angular chert piece lacking flake-like characteristics and lacking evidence of having served as a core.
- 4) A microflake is a complete flake less than 6 mm in length and, generally, is the product of fine retouch or resharpening of a tool.
- 5) Utilized chert flakes have at least three contiguous small flakes removed from one or more edges by use rather than retouch. Retouched flakes show localized removal of a small number of flakes to produce a specialized cutting, scraping, or perforating edge.

Eight non-utilized pieces of debitage (two secondary flakes, one tertiary flake, and five pieces of shatter) were collected from 15Hd521 and seven pieces of unutilized debitage (four tertiary flakes and three pieces of chert shatter) were recovered from 15Hd522. The debitage from both sites is all Upper St. Louis chert.

Historic Artifact Typology

South (1977:95-95) defined a system of artifact classification based on function. Under South's system, for example, ceramics and curved glass are kitchen group artifacts and flat glass less than 4 mm thick and nails are architectural group artifacts.

KITCHEN GROUP

Ceramics

Historic ceramics are divided into coarse earthenware, stoneware, ironstone, refined earthenware, semi-porcelain, and porcelain. Coarse and refined earthenware have the most porous paste, stoneware and ironstone have less porous paste, and semi-porcelain and porcelain have the least porous paste. Each of these broad categories is further divided into more specific types based on paste texture and color, glaze characteristics, and decoration (Maples 1991).

Stoneware. Stoneware cannot be dated to a more accurate range than nineteenth to twentieth century and vessels frequently lack maker's marks. One piece of gray paste stoneware with a brown matte interior and exterior and one piece of brown paste stoneware with brown matte interior and gray exterior were recovered from 15Hd521. The brown paste is not the "buff" color common to stoneware, but is a much darker brown. A local (Falls of the Ohio region) potter probably made the brown paste wares, because this paste color is found with a much higher frequency on Fort Knox and in nearby counties than in other parts of Kentucky and Indiana, according to the authors' observations.

Refined Earthenware. The only refined earthenware sherd collected in this project is whiteware, i.e., earthenware with a white paste. Whiteware dates from 1830 to 1890 (Smith 1983:171). This undecorated sherd was recovered from 15Hd521.

Semi-porcelain. One semi-porcelain sherd was collected from 15Hd521 and one from 15Hd522. The sherd from 15Hd521 is a bowl rim, and the one from 15Hd522 is a body sherd. Semi-porcelain dates from 1880 to present (Worthy 1982:337).

Bottle Glass

Two bottle glass fragments, one amethyst and one aqua, were recovered in this project. Amethyst bottle glass dates from ca. 1880 to 1914 (Newman 1970:70-75), while aqua glass does not have a specific time range. The amethyst piece is

a body fragment. The aqua piece is a brandy bottle neck with an applied lip, which dates from 1840-1913 (Newman 1970:70-75).

ARCHITECTURAL GROUP

Nail/spike

One complete pulled square cut nail was recovered from 15Hd522. Machine cut square nails were produced from 1790-1880 (Smith 1975:5-7).

CULTURAL RESOURCES

15Hd521

Site 15Hd521 lies at an elevation of 780 feet on a broad upland karst plain (Figures B-1 and B-2). A very small number of chert flakes were dispersed across an area 70 m (north-south) by 50 m, or 3500 m², on the crest and southern slope of a knoll. The northern portion of the knoll was covered by grass and vines and visibility was restricted to about 10 percent, while the southern slope had 40 percent visibility. The southern margin of the site had been scraped by machinery and in some areas was partially covered with gravel. Shovel probes indicated the presence of 13 cm of topsoil on the crest and north slope (Figure B-3), but the south slope was eroded to subsoil. Inspection of a sequence of topographic quadrangle editions dating from 1943 to 1991 indicate that a military structure, probably related to airport security and operations had once stood on the northwest part of the site, but had been removed several decades ago.

A small amount of historic material (six items) were recovered from a 100 m (north-south) by 50 m area. These include an amethyst bottle fragment (ca. 1880-1918), a pre-1906 aqua bottle, one whiteware sherd (1830-1890), and one semi-porcelain sherd (post-1880). The site is on a tract purchased from T.E. Kendall in 1918. No buildings were located in the site area at the time of acquisition, but the materials could derive from an outbuilding that was already in ruins at the time of acquisition or else they could be from a garbage dumping episode.

Site 15Hd521 is potentially eligible for the National Register due to field conditions which were not conducive to the adequate inspection of the site. Intact topsoil containing cultural material remains on a large area of the site. No culturally diagnostic material was recovered. It is recommended that additional archaeological research be conducted at 15Hd521 prior to any proposed construction to more fully assess its National Register eligibility.

15Hd522

Site 15Hd522 lies on the scraped slope of a rise located 20 m west of an intermittent drainage (Figures B-1 and B-4). A small number of chert flakes and two historic artifacts were found in a 10 m by 40 m (east west), or 400 m², area west of an intermittent drainage. Ground surface visibility was 100 percent on the slope. The upper slope and crest of the rise had been burned and was covered with charred grass and twigs, which limited visibility to only 20 percent. No cultural material was recovered from the rise top or upper slopes, although those areas seemed to be a more likely location for a site.

Two historic artifacts (one complete pulled square cut nail and one semi-porcelain sherd) also were recovered. This site is on property acquired by the Army from the W. R. Hart estate in 1919, but no buildings were located in this vicinity at the time of acquisition. The historic materials probably represent farm activities (a fence and a dish broken during a meal taken in the field?) or dumping onto the drainage banks. Shovel probes revealed that the soil profiles in the site area were heavily disturbed.

Site 15Hd522 is not eligible for the National Register because of heavy disturbance in this vicinity due to channelization of a ditch and construction of a berm. No additional archaeological investigation is recommended for 15Hd522.

CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search for Godman Airfield showed that none of the airfield had been previously inspected for archaeological resources. The review of aerial photographs and the comparison of landforms on a chronological sequence of topographic maps suggested that the areas of the airfield near the buildings or completely bordered by runways have been heavily disturbed by previous construction and are exempt from survey requirements. Other areas of the airfield, further from the runways, are less likely to have been disturbed. Survey of some of these areas resulted in the recording of two archaeological sites, 15Hd521 and 15Hd522.

Sites 15Hd521 and 15Hd522 both are small lithic scatters of indeterminate prehistoric cultural-temporal affiliation with minor amounts of late nineteenth-early twentieth century historic materials. Site 15Hd522 is not eligible for the National Register due to its small artifact assemblage and disturbed condition. Site 15Hd522 has been severely disturbed by the channelization of a drainage ditch and con

struction of a nearby berm. No additional archaeological investigation is recommended for 15Hd522.

Site 15Hd521 is considered to be potentially eligible for the National Register due to field conditions that prohibited an adequate examination of the site. Portions of 15Hd521 are severely eroded, but intact topsoil exists over a large area of the site. It is recommended that 15Hd521 be investigated further if there is planned construction in the vicinity or if field conditions improve.

Extension of the main runway of Godman Airfield and improvement of drainage ditches began in spring 1995 without the proper study, documentation, or consideration of environmental and cultural concerns. The EMD forester who prepares NEPA documentation subsequently has discussed the environmental and cultural requirements for federal undertakings with the airfield manager. Although 15Hd522 was disturbed by this construction, it appears to have been disturbed earlier by previous airfield construction and maintenance activities. Site 15Hd521 was not affected by the most recent construction. A 1950 aerial photograph suggests that much of the area into which the runway had been extended had been shallowly borrowed by that time. No evidence was found that the most recent (and ongoing) construction destroyed any sites which may have been eligible for the National Register. The archaeologists have provided information about cultural resource requirements to the airfield management to assist in the compliance process. It is recommended that all portions of the airfield which are not bounded on all sides by runways and were not inspected in the current survey need to be inspected prior to any proposed construction.

If archaeological materials are discovered during any earthmoving activity in Godman Field, all work in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-7005) and the DPW Staff Archaeologist (502-624-6581) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

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APPENDIX A.
RESUMES OF KEY PERSONNEL

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A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center,
Department of Sociology, Anthropology, and Social Work,
Murray State University, Murray, KY, November 1991-June
1993; Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field
Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field
Assistant II (Supervisor), summer 1983; Field Technician,
summer 1981.

Center for American Archeology, Kampsville, IL: Field
Technician, summer 1982.

Department of Anthropology, Northwestern University,
Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee,
WI: Field Technician, summer 1979.

Field Research Experience:

Field experience on prehistoric and historic archaeolog-
ical projects in Illinois, Indiana, Kentucky, New Jersey,
South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:
109 CRM contract reports on projects in Indiana, Kentucky,
and Tennessee.

1 Homicide site excavation contract report prepared in
lieu of court testimony in Illinois.

7 Papers presented at professional conferences.

6 Publications.

Doctoral candidacy qualifying paper: "A Theory of Indi-
vidual Style Variation for Archeological Studies".

Ms. submitted in partial fulfillment of the M.A.
requirements: "Models of Environmental-Cultural Relation-
ships: Testing with Archeological Evidence".

Stephen T. Mocas
Contract Assistant Staff Archaeologist

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Present Position: University of Louisville Program of
Archaeology/Fort Knox Contract Assistant Staff Archeologist

Education:

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.

B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:

Indiana University, Bloomington, Indiana: Staff Archaeologist, Part-time September 1991-Present.

Fort Knox/University of Louisville: Contract Assistant Staff Archaeologist, November 1993-December 1994.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky.
Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

2 Non-contract site reports on projects.

33 CRM contract reports on projects.

6 Chapters in additional site reports.

5 Publications.

APPENDIX B.
LOCATIONS OF CULTURAL RESOURCES